

REMARKS

Applicant thanks the Examiner for the thorough consideration given the present application. Claims 1, 2 and 7-15 are currently being prosecuted. Claims 3, 4 and 16 have been cancelled. The Examiner is respectfully requested to reconsider his rejections in view of the amendments and remarks as set forth below.

Entry of Amendment

Applicant requests that the Examiner enter the present Amendment. Applicant submits that no new issues have been introduced and that the number of claims has been reduced so that entry of the Amendment is proper. Claim 11 has been amended to point out that the heating is flash heating. This feature was originally in claim 16 and has therefore introduced no new issues. Claim 11 was also amended to make it clear that the workpiece has thermal treatment parameters which can be harmed by heating. This limitation was inferentially included previously where the heating step indicated that the parameters were not degraded. Thus, the statement that the workpiece has these parameters is not a new issue but merely emphasizes that the parameters are present before the heating. Also, the heating step has been amended to clarify that the foreign material is heated to cause its removal. Previously, the

removal was stated to be a result of the heating step but the claim now makes it clear that the foreign material is heated to cause its removal. The new language was previously found in claim 3. Thus, Applicant submits that these changes to claim 11 do not introduce any new issues since they have previously been considered either in claim 11 or claim 3. Accordingly, entry of this amendment is considered proper and is respectfully requested.

The present amendment also now changes the dependency of claims 7-10 to depend from claim 11. These claims previously depended from claim 3, which has now been cancelled.

Rejection under 35 U.S.C. §102

Claims 3, 4, 7, 11, 12 and 16 stand rejected under 35 U.S.C. 102 as being anticipated by Skolnik et al. (USP 5,026,431). This rejection is respectfully traversed.

Skolnik et al. shows a method for heating a steel drum. Following this flame heating, a baking operation is included at 425°F. Claim 11 first points out that the workpiece has thermal treatment parameters, which can be harmed by heating. This was also previously present at the end of the claim to indicate that the heating prevents degradation of these parameters. Also, the prevention of deformation of the workpiece and change in the metallurgy is also prevented. In Skolnik et al., the 55-gallon

drum has no such thermal treatment parameters. That is, the container is made of sheet metal which is not specially created for strength or other properties. The Examiner stated that the manufacturing processes are not designed to make defective products so that the equipment must be operating within certain parameters. However, this does not address the situation where the workpiece has certain properties of strength ie, ductility, which can be harmed by reheating the workpiece. Typically, a steel drum does not have these types of properties and would not be harmed by reheating the device.

This differs from a number of other parts, for example, steel rims for trucks which must meet certain federal requirements for strength. In the process of producing these types of devices, various thermal treatments are applied which produce the strength parameters, which can be harmed if they are reheated. The concept of the present invention is to be able to heat these workpieces without damaging those parameters by preventing the migration of the heat to the core of the workpiece. Applicant submits that the Skolnik et al. does not address this situation as it is not concerned whether the heat migrates to the core of the workpiece at all. This is clearly indicated by the fact that they are baked at 450°F after the flame heating. Accordingly, Applicant submits that claim 11 is allowable over Skolnik et al.

Claims 11 and 13 stand rejected under 35 U.S.C. 102 as being anticipated by Palmer (USP 4,592,288). This rejection is respectfully traversed.

In this method a workpiece in the form of a cylinder head is heated to remove grease and other materials. As indicated at column 5, lines 52-60, the heads are heated to 600-650°F if iron and 350-400°F, if aluminum, for a 30 minute cycle. Clearly this is not a case of flash heating. In fact, it is clear that this length of time would allow the heat to migrate from the surface of the workpiece to the core. Further, engine heads are typically not heat treated to produce strength parameters and are not harmed by reheating. The fact that high temperatures are normally reached in the course of an engine during its operation clearly indicates that the heads are not harmed by reheating. Accordingly, Applicant submits that claim 11 is not anticipated by Palmer.

Rejection under 35 U.S.C. 103

Claims 13-15 stand rejected under 35 U.S.C. 103 as being obvious over Skolnik et al. Claims 14 and 15 stand rejected under 35 U.S.C. 103 as being obvious over Palmer. The Examiner feels that the selection a specific automobile part would be obvious to one skilled in the art. Applicant submits that it would not be obvious to use either of these methods on such

parts. The strength characteristics of these parts may be harmed by heating, so that it would not be obvious to use these methods. In Palmer the baking operation for a lengthy period of time would remove of the deliberately included thermal treatment parameters. Likewise, in Skolnik et al. the baking of the drum at a temperature 425°F (described in column 6, line 50) would also cause damage to these parts. Accordingly, Applicant submits that these claims are also not obvious over these references.

Claim 8 stands rejected under 35 U.S.C. 103 as being obvious over Skolnik et al. in view of Jamaluddin (USP 6,135,765). Claim 9 stands rejected under 35 U.S.C. 103 as being obvious over Skolnik et al. in lieu of Bickell et al. (USP 6,055,915). Claim 10 stands rejected under 35 U.S.C. 103 as being obvious over Skolnik et al. in view of Domnitch (USP 4,688,494). These rejections are respectfully traversed.

The Examiner cites these secondary references to show the features of having a controlled cool down rate, having a program microprocessor and having a mobile furnace. Applicant submits that even if these references do show these features, these claims are allowable based on their dependency from allowable claim 11.

Applicant whishes to point out that the present method is designed to allow the removal of foreign material from parts

which can be harmed by normal heating. In many cases, parts are hardened or strengthened by heat treatments during the manufacturing process to meet certain manufacturing or government standards. For example, tire rims for trucks have strict strength regulations, which are met by heat treatments during their manufacture. If these rims are subjected to heating, the strength parameters can be removed. Accordingly, the heating processes are normally not used for the removal of foreign material from these parts for fear that the strength characteristics will be removed. Likewise, other industries and products are similarly controlled to prevent the degradation in various parameters. For example, materials for armor or other military applications must have specific strength requirements. Likewise certain marine applications require salt-water protection. It is important in situations such as these not to reheat the material since it will remove these properties. The reheating causes a change of the metallurgy of the steel and thus the change in parameters which were deliberately introduced for additional strength or hardness. For example, the steel may be changed to introduce more carbon in the metal, which makes the metal softer. For parts such as these, it is imperative that these metallurgical changes not be introduced since it affects the suitability of the material for the end product.

Applicant has invented a method which causes the foreign

material which is on the surface to be heated quickly and to be removed thereby while making the application of the heat so short as to prevent heat from migrating from the surface to the core of the workpiece. As a result, the strength properties of the materials involved are not removed and various manufacturing and government standards are still met. At the same time, the removal of the foreign material is done in a inexpensive and straight forward manner. Thus, the present invention provides advantages not envisioned by Skolnik et al. or Palmer. The present invention is designed to efficiently clean workpieces without harming their necessary strength properties.

Accordingly, Applicant submits that the present invention is not seen by the cited references.

Conclusion

In view of the above remarks, it is believed that the claims clearly distinguish over the patents relied on by the Examiner, either alone or in combination. In view of this, reconsideration of the rejections and allowance of all the claims are respectfully requested.

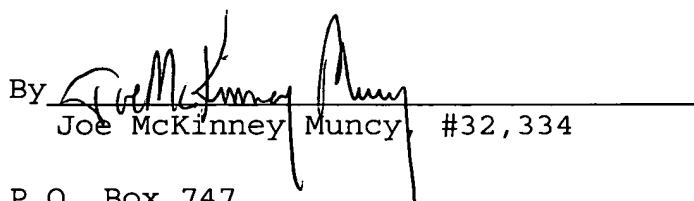
Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Robert F. Gnuse (Reg. No. 27,295) at the telephone number of the undersigned below, to conduct an interview

in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

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